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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ANTHONY M. GING, PHILIP R. KWOK, GARY C.
ROBINSON, BIANITO SANTOSO, RACHAEL E. MOORE, and
PATRICK J. MCAULIFFE

Appeal 2009-010884
Application 10/781,949
Technology Center 3700

Before: JENNIFER D. BAHR, STEFAN STAICOVICI, and FRED A.
SILVERBERG, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Anthony M. Ging et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 8-12 and 20-24 under 35 U.S.C. § 103(a) as being unpatentable over Palkon (US 7,007,696 B2, iss. Mar. 7, 2006). The Examiner has indicated that claims 1 and 4-6 are allowable. No other claims are pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

THE INVENTION

The claims are directed to a nasal mask assembly for small adults or pre-adults with sleep disordered breathing. Spec., para. 2. Claim 8, reproduced below, is illustrative of the claimed subject matter.

8. A nasal mask having a relatively rigid mask frame and a relatively softer cushion provided to said frame, said cushion comprising:

- an outer membrane including a face-contact portion to form a seal with the patient;

- a frame connection portion opposite the face-contact portion;

- an inwardly sloping or stepped outer wall between the outer membrane and the frame connection portion; and

- an underlying rim positioned below the membrane,

wherein the membrane and the rim are formed and positioned with respect to one another to accommodate at least one of a pre-adult patient or a small sized adult patient and the cushion includes a nasal bridge region, a top lip region and two side regions, and wherein a projected area of the frame connection portion is generally larger than an area defined by the face-contact portion of the membrane, wherein:

- the membrane and rim each have an orifice,

- a width of said membrane orifice is between about 30 and 32mm in said lip region, between about 18 and 20 mm in

each said side region, and between about 22 and 24mm in said nasal bridge region,

a width of the rim orifice is about 34 and 36mm in the nasal bridge region, between about 32 and 34mm in said lip region, and between about 42 and 44mm in each said side region of the cushion,

the membrane and the rim each have a height as measured from a portion of the cushion that engages the frame,

the membrane height is about 27 and 35mm in the nasal bridge region, between about 19 and 22mm in the lip region, and between about 33-35mm in each said side region,

the rim height is between about 13 and 18mm in the nasal bridge region and the lip region, and

the rim height in each said side portion is between about 25 and 27mm.

SUMMARY OF DECISION

We REVERSE.

ISSUE

The issue presented in this appeal is whether the Examiner's conclusion that it would have been obvious to modify Palkon's cushion so as to have the dimensions called for in Appellants' independent claims 8, 9, 20, and 22 has rational underpinning. *See* Ans. 4, 5, 7, 8-10; App. Br. 16-18, 20-22.

DISCUSSION

The Examiner acknowledges that Palkon does not disclose the particular dimensions called for in Appellants' independent claims 8, 9, 20, and 22. Ans. 4, 5, 7. The Examiner reasons that it would have been obvious to modify Palkon's cushion to have these dimensions as a matter of routine optimization. *Id.* In the alternative, the Examiner finds that the dimensions

of the membrane and rim orifices, membrane and rim heights, etc., called for in the claims will depend on the size of the particular patient, who may be a baby, kid, or adult, and that not all babies, kids, or adults are the same size. Ans. 8-10. Consequently, the Examiner reasons that the dimensions of the mask cushion are merely an obvious matter of design choice. *Id.*

Discovery of an optimum value of a result effective variable is ordinarily within the skill of the art. *See In re Boesch*, 617 F.2d 272, 276 (CCPA 1980); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955). The problem with the Examiner's articulated reasoning is that, as pointed out by Appellants, Palkon does not identify the dimensions at issue as result effective variables, and the Examiner does not point to any evidence that would suggest that a person of ordinary skill in the art would infer from Palkon's disclosure that these dimensions are result effective variables. *See App. Br. 16-17; Reply Br. 2. See In re Antonie*, 559 F.2d 618, 620 (CCPA 1977) (discovery of optimum value not obvious where the parameter optimized was not recognized to be a result effective variable).

Palkon cites the use of three membranes having variable thicknesses as being critical to providing a comfortable interface and an improved and continuous seal against the user's face. Col. 1, ll. 13-16; col. 2, ll. 42-45. The only dimensions specifically discussed by Palkon are the thicknesses of the membranes at various portions of the cushion and the length of the sidewall (third embodiment). Col. 4, ll. 9-47; col. 5, ll. 24-29.

Palkon does not specify any patient age or size for applicability of the mask or discuss modification of the cushion to accommodate patients of different ages or sizes. Thus, Palkon does not disclose the general conditions of the claimed invention, as the Examiner's articulated routine optimization rationale suggests. *See Ans. 4, 5, 7.* Given Palkon's emphasis

on the triple membrane construction and variable thicknesses of the membranes for achieving a comfortable fit and improved seal against the user's face, it is not apparent that a person of ordinary skill in the art would have been prompted to modify the membrane and aperture orifice widths and membrane and rim heights of Palkon's cushion to accommodate patients of different ages.

Moreover, even assuming a person of ordinary skill in the art were prompted to modify the dimensions at issue, the Examiner has not persuasively established that, in doing so, such a person would have arrived at the particular dimensions and proportions set forth in Appellants' independent claims 8, 9, 20, and 22, absent Appellants' disclosure, without undue experimentation. As pointed out in Appellants' Specification, re-sizing the adult cushion for a younger patient as Appellants have done involves more than mere scaling down of an adult mask for an infant. Spec., para. 14.

In light of the above, the Examiner has not persuasively established that modification of Palkon's cushion so as to have the dimensions called for in claims 8, 9, 20, and 22 would have been an obvious matter of routine optimization or design choice. The Examiner's conclusion that the subject matter of Appellants' independent claims 8, 9, 20, and 22, and their dependent claims, would have been obvious lacks rational underpinning.

DECISION

For the above reasons, the Examiner's decision is reversed.

REVERSED

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